

1. A computer program product, tangibly stored on a machine-readable medium, comprising instructions operable to cause a programmable processor to:

generate a first container object including one or more of a sender's certificate  
5 and a request for a recipient's certificate, wherein the first container object has a recognizable container type; and

transmit the first container object to a recipient's address.

2. The computer program product of claim 1, further comprising instructions operable to:

10 prior to generating a first container object, receive input from a sender specifying the recipient's address and specifying one or more of a certificate of the sender and a request for the recipient's certificate to include in the first container object.

3. The computer program product of claim 1, wherein transmitting the first container  
15 object includes transmitting the first container object by one of electronic mail and Hypertext Transfer Protocol.

4. The computer program product of claim 1, wherein the first container object is generated by a server.

5. The computer program product of claim 1, the instructions further operable to:  
20 if the sender has multiple certificates, receive input from the sender selecting one or more of the sender's multiple certificates;

retrieve the sender's selected certificates from a certificate database; and

include the sender's selected certificates in the first container object.

6. The computer program product of claim 1, wherein the first container object includes a request for a recipient's certificate, the instructions further operable to:

25 receive input from a sender specifying a return address for receiving the recipient's certificate and instructions for returning the recipient's certificate; and

include in the first container object the return address and instructions for returning the recipient's certificate.

7. The computer program product of claim 1, wherein the first container object includes a sender's certificate, and the instructions are further operable to:

include in the first container object validation information to be used to validate the sender's certificate.

8. The computer program product of claim 1, wherein the container type is Forms Data Format.

9. A computer program product, tangibly stored on a machine-readable medium, for receiving a certificate, comprising instructions operable to cause a programmable processor to:

receive a container object having a container type;

recognize the container type and that the container object may include a certificate of a sender of the container object; and

determine if the container object contains a certificate of the sender.

10. The computer program product of claim 9, wherein the instructions operable to receive a container object comprise instructions operable to receive a message including the container object by one of electronic mail and Hypertext Transfer Protocol.

11. The computer program product of claim 9, wherein the container type is Forms Data Format.

12. The computer program product of claim 9, wherein the container object includes a certificate and validation information, and the instructions are further operable to:

to accept or reject the certificate using the validation information; and

if the certificate is accepted, to extract the certificate and store the certificate.

13. A computer program product, tangibly stored on a machine-readable medium, for receiving a request for a certificate, the instructions operable to:

receive a first container object having a container type;

recognize the container type and that the first container object may include a request for a certificate of a recipient of the container object;

determine if the first container object includes a request for a certificate of the

recipient; and

if a request is included in the first container object, then respond to the request.

14. The computer program product of claim 13, wherein the instructions operable to respond to the request further comprise instructions operable to:

5 generate a second container object including a certificate of the recipient;  
extract a return address from the first container object; and  
transmit the second container object to the return address.

15. The computer program product of claim 14, wherein the instructions operable to transmit the second container object include instructions operable to transmit by one of  
10 electronic mail and Hypertext Transfer Protocol.

16. The computer program product of claim 14, wherein the certificate of the recipient is stored in a certificate database, and the instructions are further operable to:

if the recipient has multiple certificates, receive input from the recipient selecting one or more of the recipient's multiple certificates;  
15 retrieve the selected certificates from the certificate database; and  
include the selected certificates in the second container object.

17. The computer program product of claim 14, the instructions further operable to:  
include in the second container object validation information to be used to  
validate the certificate of the recipient.

20 18. The computer program product of claim 14, wherein the first container object and the second container object are a Forms Data Format container type.

19. The computer program product of claim 13, wherein the first container object is received from a networked server and wherein the instructions operable to respond to the request further comprise instructions operable to:

25 transmit the recipient's certificate back to the networked server by Hypertext Transfer Protocol.

20. The computer program product of claim 13, wherein the container type is Forms Data Format container type.

21. A computer program product, tangibly stored on a machine-readable medium, comprising instructions operable to cause a programmable processor to:

5 generate a first container object including a sender's certificate and a request for a recipient's certificate, wherein the first container object has a recognizable container type;  
transmit the first container object to a recipient's address;  
receive a second container object generated in response to the request for the recipient's certificate, the second container object having the recognizable container type;  
10 determine if the second container object includes the recipient's certificate; and  
if the second container object includes the recipient's certificate, then accept or reject the recipient's certificate.

22. The computer program product of claim 21, wherein the second container object includes validation information and wherein instructions to accept or reject the recipient's certificate comprise instructions to accept or reject the recipient's certificate using the validation information.

23. A computer program product, tangibly stored on a machine-readable medium, comprising instructions operable to cause a programmable processor to:

20 generate a first container object including one or more of instructions for retrieving a sender's certificate and instructions requesting a recipient's certificate, wherein the first container object has a recognizable container type; and  
transmit the first container object to a recipient's address.

24. The computer program product of claim 23, further comprising instructions operable to:

25 prior to generating a first container object, receive input from a sender specifying the recipient's address and specifying one or more of a certificate of the sender and a request for the recipient's certificate to include in the first container object.

25. The computer program product of claim 23, wherein transmitting the first container object includes transmitting the first container object by one of electronic mail and by Hypertext Transfer Protocol.

26. The computer program product of claim 23, the instructions further operable to:  
5 if the sender has multiple certificates, receive input from the sender selecting one or more of the sender's multiple certificates;  
include instructions for retrieving the sender's selected certificates in the first container object.

27. The computer program product of claim 23, wherein the first container object  
10 includes instructions requesting a recipient's certificate, the instructions further operable to:  
receive input from a sender specifying a return address for receiving the recipient's certificate and instructions for returning the recipient's certificate; and  
include in the first container object the return address and instructions for returning the recipient's certificate.

28. The computer program product of claim 23, wherein the first container object  
15 includes a sender's certificate, and the instructions are further operable to:  
include in the first container object instructions for validating the sender's certificate.

29. The computer program product of claim 23, wherein the container type is Forms Data  
20 Format.

30. A computer-implemented method, comprising:  
generating a first container object including one or more of a sender's certificate,  
and a request for a recipient's certificate, wherein the first container object has a recognizable  
container type; and  
25 transmitting the first container object to a recipient's address.

31. The method of claim 30, further comprising:  
prior to generating a first container object, receiving input from a sender

specifying the recipient's address and specifying one or more of a certificate of the sender and a request for the recipient's certificate to include in the first container object.

32. The method of claim 31, wherein transmitting the first container object includes transmitting the first container object by one of electronic mail and Hypertext Transfer Protocol.

33. The method of claim 30, wherein the first container object is generated by a server.

34. The method of claim 30, further comprising,

if the sender has multiple certificates, then receiving input from the sender selecting one or more of the sender's multiple certificates;

retrieving the sender's selected certificates from a certificate database; and

including the sender's selected certificates in the first container object.

35. The method of claim 30, wherein the first container object includes a request for a recipient's certificate, the method further comprising:

receiving input from a sender specifying a return address for receiving the recipient's certificate and instructions for returning the recipient's certificate; and

including in the first container object the return address and instructions for returning the recipient's certificate.

36. The method of claim 30, wherein the first container object includes a sender's certificate, the method further comprising:

including in the first container object validation information to be used to validate the sender's certificate.

37. The method of claim 30, wherein the container type is Forms Data Format.

38. A computer-implemented method for receiving a certificate, the method comprising:

receiving a container object having a container type;

recognizing the container type and that the container object may include a certificate of a sender of the container object; and

determining if the container object contains a certificate of the sender;

39. The method of claim 38, wherein receiving a container object comprises receiving a message including the container object by one of electronic mail and Hypertext Transfer Protocol.

40. The method of claim 38, wherein the container type is Forms Data Format.

41. The method of claim 38, wherein the container object includes a certificate and validation information, the method further comprising:

accepting or rejecting the certificate using the validation information; and  
if accepting the certificate, then extracting the certificate and storing the certificate.

42. A computer-implemented method for receiving a request for a certificate, the method comprising:

receiving a first container object having a container type;  
recognizing the container type and that the first container object may include a request for a certificate of a recipient of the container object;  
determining if the first container object includes a request for a certificate of the recipient; and  
if a request is included in the first container object, then responding to the request.

43. The method of claim 42, wherein responding to the request further comprises:  
generating a second container object including a certificate of the recipient;  
extracting a return address from the first container object; and  
transmitting the second container object to the return address.

44. The method of claim 43, wherein transmitting the second container object includes transmitting by one of electronic mail and Hypertext Transfer Protocol.

45. The method of claim 43, wherein the certificate of the recipient is stored in a certificate database, the method further comprising,

if the recipient has multiple certificates, then receiving input from the recipient selecting one or more of the recipient's multiple certificates;  
retrieving the selected certificates from the certificate database; and  
including the selected certificates in the second container object.

46. The method of claim 43, further comprising:

including in the second container object validation information to be used to validate the certificate of the recipient.

47. The method of claim 43, wherein the first container object and the second container object are a Forms Data Format container type.

48. The method of claim 42, wherein the first container object is received from a networked server and wherein responding to the request further comprises:

transmitting the recipient's certificate back to the networked server by Hypertext Transfer Protocol.

49. The method of claim 42, wherein the container type is Forms Data Format container type.